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Gabriel Costa De Oliveira

Software Engineer

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Currently pursuing a degree in Software Engineering at one of the **top universities in Brazil** with over two years of professional experience as a data scientist and backend developer. Additionally, I have won awards in several **competitive programming** competitions, including the **ICPC Brazilian Finals**, demonstrating my strong analytical abilities to solve complex problems.

EDUCATION

Bachelor's in Software Engineering,
University of Brasília (UnB)

January 2019 — December 2025

RECENT WORK EXPERIENCE

AI.lab UnB

January 2024 — Present
Brasília, DF

Work on the high-impact Osiris Project, resulting from an **investment of \$700,000 USD**, developing AI applications to streamline workflows for **judges and prosecutors** in tax enforcement. Held dual roles as Data Scientist and Backend Developer.

Backend Developer

August 2024 — Present

- Develop APIs and AI services to integrate machine learning models aimed at improving the work of judges and prosecutors in tax enforcement.
- Deploy models to production using **FastAPI**, **Docker** containers, and **MLOps** practices.
- Implement unit and integration tests using **Pytest**.
- Apply parallel and distributed programming techniques to reduce processing time.
- Create new modules following a **microservices** architecture.

Data Scientist

January 2024 — August 2024

- Used **MLflow** for versioning and developing **pipelines for AI** models.
- Utilized MLflow for model **performance analysis** and testing different hypotheses.
- Implemented efficient pipelines for preprocessing (data mining, cleaning, and augmentation), vectorization, and storage of textual data.
- Leveraged LLMs such as **Llama 3**, along with **RAG** techniques and **NLP** for legal text classification.
- Successfully trained and integrated AI models for legal document **classification**.
- Applied **Machine Learning** (scikit-learn) and **Deep Learning** (PyTorch, TensorFlow).

Zeroo

Android Developer

September 2022 — November 2023

Brasília, DF

- Developed native Android app using Java/Kotlin
- Integrated **AI models** for object classification with **TensorFlow** and **ML Kit**
- Created requirements documentation using Mkdocs
- Implemented MVVM architecture with SOLID principles and **GOF patterns**

- Built relational database using **SQLite3** with Room and LiveData

University of Brasília

Data structures & Algorithms teaching assistant

March 2022 — August 2022

Brasília, DF

Enhanced expertise in algorithms while developing technical communication skills:

- Greedy algorithms
- Dynamic Programming
- Tree structures
- Graph theory
- Complexity analysis (Big-O)

SKILLS

Languages	C, C++, Java, Python, SQL
Tools	Git, Linux, Scikit-learn, TensorFlow, Hadoop, PyTorch, PySpark, MariaDB, MongoDB, MySQL, SQLite3, FastAPI, SQLAlchemy, NumPy, Pandas & pytest
DevOps & QA	CI/CD Pipelines, SonarQube, Unit Testing, Integration Testing, Docker & Kubernetes
Software Engineering	Design Patterns, SOLID Principles, Clean Code, Relational Database Modeling, Messaging Systems, Parallel & Distributed Programming & Microservices
Methodologies	Agile (Scrum, Kanban, XP) & TDD (Test-Driven Development)
Languages	Portuguese (Native) & English (C1)

CERTIFICATIONS, AWARDS, AND HONORS

I possess not only **advanced knowledge in data structures and algorithms** but also a strong analytical ability to solve complex problems. These skills led me to the **ICPC Brazilian Programming Finals** in 2023 and a top placement in IEEEExtreme 17.0. Additionally, these competitions were instrumental in solidifying my **Python and C++** expertise.

ICPC South America Brazil Finals — <i>Honorable Mention</i>	2023
ICPC South America-Brazil First Phase — Qualified for the Brazilian Finals, 66th Place	2023
IEEEExtreme 17.0 — 4th Best Brazilian Team, ranking among the top 14% globally	2023